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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,659	04/04/2002	Atsunobu Sakamoto	0112895-005	6654

40337 7590 10/11/2005

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EXAMINER	
JEFFERY, JOHN A	

ART UNIT	PAPER NUMBER
3742	

DATE MAILED: 10/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,659	SAKAMOTO ET AL.	
	Examiner	Art Unit	
	John A. Jeffery	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/30/05 & 8/10/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 April 2002* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Revised Amendment Practice Under 37 CFR 1.121

Applicant is reminded that amendments must be submitted in compliance with 37 CFR 1.121 in accordance with the revised amendment practice for all amendments filed on or after July 30, 2003.

The seven permissible status identifiers set forth in 37 CFR 1.121(c) are:

(Original);

(Currently amended);

(Canceled);

(Previously presented);

(New);

(Not entered); and

(Withdrawn).

Accordingly, because the status identifiers for claims 1, 7, and 17 are not one of the seven permissible identifiers, they do not comply with 37 CFR 1.121(c). Therefore, they must be changed to the appropriate identifiers.

Drawing Objections

The drawings are objected to because of the following informalities:

Figs. 1-3 and 9

- The two separate subfigures of each figure (i.e., electric heater and seal line) must be separated and presented as a separate figure with unique figure label (i.e., Fig. 1A, Fig. 1B, etc.). Therefore, applicant must (1) separate each subfigure more for clarity, and (2) amend the specification to specifically refer to the new figure labels.
- As shown, the seal lines 2, 7, 10, and 24 do not clearly depict a seal line on an underlying material to be sealed, but rather appear to be structural elements of the invention. Accordingly, applicant must add a dashed line surrounding each seal line 2, 7, 10, 24 to clearly show that the seal lines are made on a substrate material (e.g., a box formed from dashed lines surrounding each seal line is sufficient). Alternatively, applicant may add new figures clearly showing the seal lines on the material (seal lines preferably shown in phantom) commensurate with the exhibits filed in response to the final rejection. In any event, applicant is reminded to assign a unique reference numeral to the underlying material as well as the seal lines.

Drawings Must Show Claimed Subject Matter

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the broadened electrode portions being non-uniform in surface area with respect to each other as claimed in claims 2 and 7 must be shown or the feature cancelled from the claims. The drawings currently only show electrode areas with a uniform surface area -- not a non-uniform surface area. Applicant is reminded to amend the specification accordingly in conjunction with the addition of any new figures. No new matter should be entered.

Other Drawing Objections

Fig. 5: The figure must be labeled "PRIOR ART."

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Disclosure Objections

The disclosure is objected to because of the following informalities:

The specification is replete with grammatical and idiomatic errors too numerous to mention specifically. The specification should be revised carefully. Examples of such errors are:

On P. 5, lines 15-22, the text is a series of unanswered questions which is somewhat colloquial and informal for an appropriate patent specification. Therefore, applicant must reword each question as a definitive sentence (i.e., not a question, but rather a sentence that formally states the problem(s)) to more formally and clearly state the problems encountered in the prior art.

On P. 5, line 17, "for such as PP" is unclear and must be reworded or deleted for clarity.

On P. 6, line 23, the comma after "from" must be deleted.

On P. 6, line 12, the comma after "gaps" must be deleted.

The above list is by no means exhaustive: numerous grammatical problems are present throughout the disclosure. Applicant must carefully revise the entire specification for proper form. Appropriate correction is required.

Claim Objections

Claims 16-24 are objected to because of the following informalities:

Claim 16: In line 1, "1" must be changed to "7." Although the claim depends from claim 1, the examiner presumes that such dependency is a typographical error and applicant intended the claim to depend from claim 7 in view of (1) the preamble's consistency with claim 7 ("[t]he heater wire"), and (2) claim 6 that is commensurate in scope with claim 16.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6, 14, 16, and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: In lines 4-5, the phrase "the appropriate machine supporting mechanisms" is vague and indefinite. The test for definiteness under 35 U.S.C. § 112, second paragraph is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986). However, the term "appropriate machine supporting mechanisms" does not reasonably convey to

the skilled artisan the exact structure constituting an "appropriate machine supporting mechanism" – even when read in light of the specification. The scope of the claim is uncertain and therefore indefinite.

Claims 14 and 22: In line 3, "and equivalents thereof" is vague and indefinite since it is uncertain which metals constitute an "equivalent." For clarity, applicant must specify the metals intended to be claimed with particularity – not as amorphous "equivalents" of iron chromium. Applicant is cautioned against including new matter.

Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 17-19, 22, and 23 are rejected under 35 USC 102(b) as being anticipated by Kettelhoit et al. (US 4,790,901). Kettelhoit et al. (US 4,790,901) discloses in Figs. 2 and 3 a laminator comprising a press mechanism and a unitary planar zigzag electric heater 8a with widened electrode portions 23, 24 and narrower heating portion 14. See col. 4, line 59 – col. 5, line 25. As noted in col. 5, lines 13-16, the serpentine path is optimal for heat sealing purposes "because very small optimal intervals are provided between individual current conductive paths 14." (emphasis added.) Note the thin gaps 15 in Fig. 2. Such a structure inherently generates

substantially all of the heat in the plane of the heater to effect a continuous heat seal on the workpiece.

Regarding claim 22, the claim recites a broader recitation ("electrically high resistance material") and an exemplary narrower limitation ("iron chromium and equivalents thereof"). Because Kettelhoit et al. (US 4,790,901) fully meets the broader recitation, claim 22 is fully met.

Joint Inventors -- Common Ownership Presumed

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligations under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

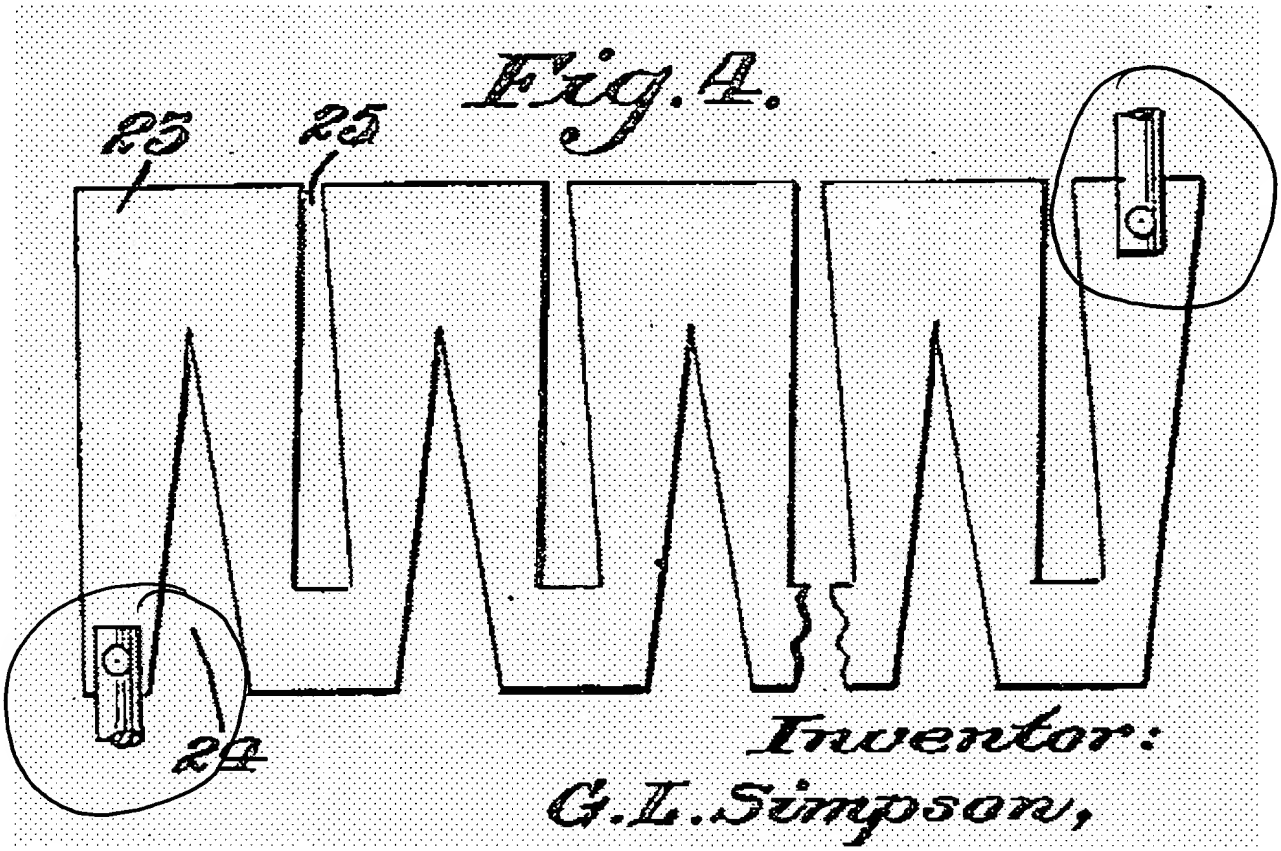
Claim Rejections - 35 U.S.C. § 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

> Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 2, 7-11, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Simpson (US 1,975,410). The claims differ from Kettelhoit et al. (US 4,790,901) in calling for asymmetrical electrode portions. But asymmetrical electrode portions in electric heaters is well known in the art. Simpson (US 1,975,410), for example, discloses providing electrode portions for a serpentine electric heater 25 with unequally sized electrode portions. Compare the left electrode portion with the right electrode portion in Fig. 4 of Simpson (US 1,975,410), reproduced below for clarity:



Such an arrangement produces a non-uniform heating profile along the heater thus compensating for temperature non-uniformities during operation. See Page 2, lines 26-48. In view of Simpson (US 1,975,410), it would have been obvious to one of ordinary skill in the art at the time of the invention to provide unequally sized electrode portions in the heater of the previously described apparatus to produce a non-uniform heating profile along the heater thus compensating for temperature non-uniformities during operation.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Simpson and further in view of Bergersen et al (US 4,501,956). The claim differs from the previously cited prior art in calling for thinning the electric heater by a rolling process. Thinning electric heating elements by rolling processes is conventional and well known in the art as evidenced by Bergersen et al (US 4,501,956) noting col. 3, lines 24-25. The use of rollers to thin elements is advantageous in that thinning of the heater sheets may be achieved in a continuous fashion, such as on a conveyor. In view of Bergersen et al, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a rolling process to thin the electric heater of the previously described apparatus so that the heater sheets were thinned in a continuous fashion, such as on a conveyor.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Simpson and further in view of Hurko et al (US 4,286,377). The claim differs from the previously cited prior art in calling for processing the heater wire by photoetching. Forming a zigzag electric heater foil via a photoetching process is conventional and well known in the art as evidenced by Hurko et al (US4286377) noting the last line of the abstract and col. 3, lines 35-40. Using such an etching process, the heater pattern can be precisely fabricated using automated techniques. In view of Hurko et al (US4286377), it would have been obvious to one of ordinary skill in the art to use a photoetching process to fabricate the heater pattern of

the previously described apparatus so that the heater pattern can be precisely fabricated using automated techniques.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Solow (US 4,306,217). The claim differs from Kettelhoit et al. (US 4,790,901) in calling for strengthening the metal via a tempering means. Tempering electric heater foils by annealing and the like is conventional and well known in the art as evidenced by Solow (US 4,306,217) noting col. 5, lines 19-34 where the electric heater foil is annealed at 1000 degrees F during manufacture. As is well known in the art, annealing metals inherently imparts strength to metals in view of the changes in grain structure of the metal caused by the annealing process. In view of Solow (US 4,306,217), it would have been obvious to one of ordinary skill in the art to strengthen the electric heater by a tempering process, such as annealing, in the previously described apparatus so that the electric heater was stronger and more durable at elevated temperatures.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Hurko et al (US 4,286,377). The claim differs from Kettelhoit et al. (US 4,790,901) in calling for processing the heater wire by photoetching. Forming a zigzag electric heater foil via a photoetching process is conventional and well known in the art as evidenced by Hurko et al (US4286377) noting the last line of the abstract and col. 3, lines 35-40. Using such an etching process, the

heater pattern can be precisely fabricated using automated techniques. In view of Hurko et al (US4286377), it would have been obvious to one of ordinary skill in the art to use a photoetching process to fabricate the heater pattern of the previously described apparatus so that the heater pattern can be precisely fabricated using automated techniques.

Claims 6 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Weisz (US 4,108,713). The claims differ from Kettelhoit et al. (US 4,790,901) in calling for the sealer to be used as a book binder. However, using heat sealing electric heaters in such applications is well known in the art as evidenced by Weisz (US 4,108,713) noting the first sentence of the abstract (noting the alternative use of electric heat sealers in laminators as well as bookbinders). In view of Weisz (US 4,108,713), it would have been obvious to one of ordinary skill in the art to use the electric heater sealer to bind books as well as laminate articles, thus increasing the apparatus' utility.

Claim 16[1] is rejected under 35 U.S.C. 103(a) as being unpatentable over Kettelhoit et al. (US 4,790,901) in view of Simpson and further in view of Weisz (US 4,108,713). The claim differs from the previously cited prior art in calling for the sealer to be used as a book binder. However, using heat sealing electric heaters in such applications is well known in the art as evidenced by Weisz (US 4,108,713) noting the

first sentence of the abstract (noting the alternative use of electric heat sealers in laminators as well as bookbinders). In view of Weisz (US 4,108,713), it would have been obvious to one of ordinary skill in the art to use the electric heater sealer to bind books as well as laminate articles, thus increasing the apparatus' utility.

Other Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant should (1) separately consider the art, and (2) consider the art together with the previously cited prior art for potential applicability under 35 U.S.C. §§ 102 or 103 when responding to this action. US 943, US 159 (Fig. 2), US 665, US 853 (Fig. 2) disclose heat sealers with zigzag heating elements relevant to the instant invention.

Response to Arguments

Applicant's arguments and accompanying exhibits filed 3/30/05 and 8/10/05 have been considered but are deemed to be moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. Jeffery whose telephone number is (571) 272-

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[1] As noted in the Claim Objections section of this office action, claim 16 is presumed to depend from claim 7.

4781. The examiner can normally be reached on Monday - Thursday from 7:00 AM to 4:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans, can be reached on (571) 272-4777. All faxes should be sent to the centralized fax number at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JOHN A. JEFFERY
PRIMARY EXAMINER

9/30/05